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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/704,504 | 11/02/2000 | Behzad Mohebbi | FUJL-17.720 | 4761 |

26304 7590 04/21/2004

KATTEN MUCHIN ZAVIS ROSENMAN
575 MADISON AVENUE
NEW YORK, NY 10022-2585

EXAMINER

FERGUSON, KEITH

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2683

7

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/704,504

Applicant(s)

MOHEBBI ET AL.

Examiner

Keith T. Ferguson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 13-33 and 38-54 is/are rejected.
- 7) ☒ Claim(s) 9-12 and 34-37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 19-21, 27-29 and 49-54 are rejected under 35

U.S.C. 102(a) as being anticipated by Labedz.

Regarding claim 19, Labedz discloses a base station controller (fig. 1 number 104), for use in a cellular mobile communications network (fig. 1) that includes an array of

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base transceiver stations (fig. 1 numbers 101-103), each having a communications path connecting it to the base station controller such that (fig. 1), when an uplink signal is received from a mobile station (fig. 1 number 105) of the network by a plurality of the base transceiver stations of the array (page 40 line 8 through page 42 line 2), each of those base transceiver stations can transfer the received uplink signal via its said communications path to the base station controller (page 40 line 8 through page 42 line 2), which base station controller (fig. 1 number 104) includes: a communications path assessment unit (fig. 1 number 113) which assesses said communications paths according to one or more predetermined characteristics (i.e. characteristics known in advanced) (page 41 lines 15-29); and an informing unit (fig. 1 number 110) which generates assessment signals indicating the results of the assessment of said communications paths (i.e. the arrow paths to/from TC in fig. 1 number 110 and page 41 lines 15-29) and which transmits such assessment signals to the base transceiver stations of said plurality (fig. 1 number 110 and page 41 line through page 21 line 2).

Regarding claims 20,28,50 and 53, Labedz discloses said base transceiver stations of said plurality are base transceiver stations of said array involved in a soft hand-off operation with said mobile Station (page 41 lines 5-11).

Regarding claims 21,29,51 and 54, Labedz discloses a predetermined characteristics (pilot characteristics) (availability) (page 41 lines 15-29).

Regarding claims 27 and 52, Labedz discloses methods (fig. 4) for use in a cellular mobile communications network (fig. 1) including: a base station controller (fig. 1 number 104); an array of base transceiver stations (fig. 1 numbers 101-103), each having a communications path connecting it to said base station controller (fig. 1 number 104), such that when an uplink signal is received from a mobile station of the network by a plurality of the base transceiver stations of said array (page 40 line 8 through page 42 line 2), each base transceiver station of said plurality can transfer the received uplink signal via its said communications path to said base station controller (page 40 line 8 through page 42 line 2); in which communication method: a communications path assessment unit (S/C 113) which assesses said

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communications paths according to one or more predetermined characteristics (advance characteristics) (page 41 lines 15-29); to prevent at least one base transceiver station of said plurality from transferring the received uplink signal to said base station controller means (i.e. the S/C 113 anticipates a lost of communication with a mobile station and provide a message to a interfering base station that it is interfering with the mobile station communication (page 41 line 15 through page 42 line 2)).

Regarding claim 49, Labedz discloses a base transceiver station (fig. 1 numbers 101-103), for use in a cellular mobile communications network in which an array of base transceiver stations including the claimed base transceiver station are connected to a base station controller (fig. 1 number 104) of the network by respective communications paths such that when an uplink signal is received from a mobile station by a plurality of the base transceiver stations of the array (fig. 1 number 105 and page 41 line 5 through page 42 line 2), each of those base transceiver stations can transfer the received uplink signal via its said communications path to said base station controller (page 41 line 5 through page 42 line 2); the claimed base transceiver station including: to prevent the claimed base transceiver station from transferring the received uplink signal to said base station controller (i.e. a S/C 113 of the base station controller anticipates a lost of communication with a mobile station and provide a message to a interfering base station that it is interfering with the mobile station communication (page 41 line 15 through page 42 line 2)).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject

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matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-8,13,17,18,22-26,30-33,38,42-44,46-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Labedz (WO 97/41652) in view of Bruckert et al..

Regarding claims 1,4 and 30, Labedz discloses a cellular mobile communications network (fig. 1) including: a base station controller (fig. 1 number 104); an array of base transceiver stations (fig. 1 numbers 101-103), each having a communications path connecting it to said base station controller (fig. 1 number 104), such that when an uplink signal is received from a mobile station of the network by a plurality of the base transceiver stations of said array (page 40 line 8 through page 42 line 2), each base transceiver station of said plurality can transfer the received uplink signal via its said communications path to said base station controller (page 40 line 8 through page 42 line 2); a communications path assessment unit (S/C 113) which assesses said communications paths according to one or more predetermined characteristics (advance characteristics) (page 41 lines 15-29); to prevent at least one base transceiver station of said plurality from transferring the received uplink signal to said base station controller means (i.e. the S/C 113 anticipates a lost of communication with a mobile station and provide a message to a interfering base station that it is interfering with the mobile station communication (page 41 line 15 through page 42 line 2). Labedz differs from claims 1,4 and 30 of the present invention in that it does not explicit disclose a communications path disabling unit operable, based on the assessment of the communications paths. Bruckert et al. teaches a base station may stop transmission to a subscriber based upon a weaker or faded signal (col. 6 lines 29-43). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Labedz base transceiver station with a communications path disabling unit operable, based on the assessment of the communications paths in order for the network to prevent a nearby base station from interfering with a call which would force the call into soft handoff, as taught by Bruckert et al..

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Regarding claims 2 and 31, Labedz discloses said communications path assessment unit (fig. 1 number 104) (S/C 113) is included in said base station controller (page 41 lines 15-29).

Regarding claims 3,5,24,32 and 33, Labedz discloses a cellular mobile communications network as discussed in claim 1 above. Labedz differs from claims 3,5,24,32 and 33 of the present invention in that it does not explicit disclose said communications path assessment unit is included in each of said base transceiver stations of said plurality. Bruckert et al. teaches said communications path assessment unit is included in each of said base transceiver stations of said plurality (col. 6 lines 29-42). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Labedz network with said communications path assessment unit is included in each of said base transceiver stations of said plurality in order for the base station transceiver to make a determination if they are interfering with a call connection which would cause a false soft handoff, as taught by Bruckert et al..

Regarding claim 6, Labedz discloses said communications path assessment unit is operable to determine an order of ranking (i.e. based upon the pilot quality) of the assessed communications paths according to said one or more predetermined characteristics (path loss) and to inform the communications (page 41 line 5 through page 42 line 2).

Regarding claim 7, Labedz discloses a received uplink signal assessment unit for assessing the received uplink signal of at least one of the base transceiver stations of said plurality (page 41 line 5 through page 42 line 2).

Regarding claim 8, Labedz discloses a cellular mobile communications network as discussed in claims 1 and 7 above. Labedz differs from claim 8 of the present invention in that it does not explicit disclose said communications path assessment unit is included in each of said base transceiver stations of said plurality, and said mobile station is operable to provide the received uplink signal assessment unit in each base transceiver station of said plurality with a measure of the uplink channel performance of each other base transceiver station

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of said plurality. Bruckert et al. teaches said communications path assessment unit is included in each of said base transceiver stations of said plurality (col. 6 lines 29-42), and said mobile station is operable to provide the received uplink signal assessment unit in each base transceiver station of said plurality with a measure of the uplink channel performance of each other base transceiver station of said plurality (col. 6 lines 29-42). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Labedz network with said communications path assessment unit is included in each of said base transceiver stations of said plurality and said mobile station is operable to provide the received uplink signal assessment unit in each base transceiver station of said plurality with a measure of the uplink channel performance of each other base transceiver station of said plurality in order for the base station transceiver to make a determination if they are interfering with a call connection, and to provide uplink signal assessment messages from a mobile station to another base station to prevent interference with the other base station which would cause a false soft handoff, as taught by Bruckert et al..

Regarding claims 13 and 38, Labedz discloses said communications path assessment unit is operable to examine signals propagating through said communications paths and to employ the results of the examination to assess at least one of said predetermined characteristics of said communications paths (page 41 lines 15-29).

Regarding claims 17,25,42 and 47, Labedz discloses said base transceiver stations of said plurality are base transceiver stations of said array involved in a soft hand-off operation with said mobile station (page 41 lines 5-11).

Regarding claims 18,26,43 and 48, Labedz discloses a predetermined characteristics (pilot characteristics) (availability) (page 41 lines 15-29).

Regarding claim 22, Labedz discloses a base transceiver station (fig. 1 numbers 101-103), for use in a cellular mobile communications network in which an array of base transceiver stations including the claimed base transceiver station are connected to a base station controller (fig. 1 number

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104) of the network by respective communications paths such that when an uplink signal is received from a mobile station by a plurality of the base transceiver stations of the array (fig. 1 number 105 and page 41 line 5 through page 42 line 2), each of those base transceiver stations can transfer the received uplink signal via its said communications path to said base station controller (page 41 line 5 through page 42 line 2); the claimed base transceiver station including: to prevent the claimed base transceiver station from transferring the received uplink signal to said base station controller (i.e. a S/C 113 of the base station controller anticipates a lost of communication with a mobile station and provide a message to a interfering base station that it is interfering with the mobile station communication (page 41 line 15 through page 42 line 2)). Labedz differs from claim 22 of the present invention in that it does not explicit disclose a communications path disabling unit operable, based on an assessment of said communications paths according to one or more predetermined characteristics thereof. Bruckert et al. teaches a base station may stop transmission to a subscriber based upon a weaker or faded signal (col. 6 lines 29-43). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Labedz base transceiver station with a communications path disabling unit operable, based on an assessment of said communications paths according to one or more predetermined characteristics thereof in order for the network to prevent a nearby base station from interfering with a call which would force the call into soft handoff, as taught by Bruckert et al..

Regarding claim 23, Labedz discloses the assessment (i.e. at the S/C 113) of said communications paths is carried out externally of the base transceiver station (fig. 1 numbers 113 and 101-103) and the results of the assessment are communicated to the base transceiver station by one or more assessment signals (page 41 line 15 through page 42 line 2)).

Regarding claims 44 and 46, Labedz discloses a base station controller (fig. 1 number 104), for use in a cellular mobile communications network (fig. 1) that includes an array of base transceiver stations (fig. 1 numbers 101-103), when a downlink signal for transmission to a mobile station of the network is produced by the base station controller (page 8 lines 18-28) each having a communications path connecting it to the

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base station controller such that (fig. 1), each having a communications path connecting it to the base station controller such that, when a downlink signal for transmission to a mobile station of the network is produced by the base station controller (page 8 lines 18-28), which base station controller includes: a communications path assessment unit (fig. 1 number 113) which assesses said communications paths according to one or more predetermined characteristics (i.e. characteristics known in advanced) (page 41 lines 15-29); and an informing unit (fig. 1 number 110) which generates assessment signals indicating the results of the assessment of said communications paths (i.e. the arrow paths to/from TC in fig. 1 number 110 and page 41 lines 15-29) and which transmits such assessment signals to the base transceiver stations of said plurality (fig. 1 number 110 and page 41 line through page 21 line 2). Labeledz differs from claim 44 of the present invention in that it does not explicit disclose a communications path disabling unit. Bruckert et al. teaches a base station controller may stop transmission to a subscriber based upon a weaker or faded signal (col. 6 lines 29-43). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Labeledz base transceiver station controller with a communications path disabling unit in order for the network to prevent a nearby base station from interfering with a call which would force the call into soft handoff, as taught by Bruckert et al..

6. Claims 16 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Labeledz (WO 97/41652) in view of Bruckert et al. as applied to claims 1 and 30 above and in further view of Vaara.

Regarding claims 16 and 41, the combination of Labeledz and Bruckert et al. differs from claims 16 and 41 of the present invention in that they do not explicit disclose said communications path assessment unit includes a storage device for storing one or more measures of the performance of each of said communications paths. Vaara teaches a base station controller (communications path assessment unit) that includes a storage device for storing one or more measures of the performance of each of said communications paths (col. 5 lines 42-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Labeledz and Bruckert et al. network with said communications path assessment unit includes a storage device for

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storing one or more measures of the performance of each of said communications paths in order to determine what uplink path provides the best connection for soft handoff, as taught by Vaara.

7. Claims 14,15,39,40 and 45 are rejected under 35 U.S.C.

103(a) as being unpatentable over Labeledz (WO 97/41652) in view of Bruckert et al. as applied to claims 1,30, and 44 above and in further view of Gilhousen et al..

Regarding claims 14,15,39 and 40, the combination of Labeledz and Bruckert et al. differs from claims 14,15,39 and 40 of the present invention in that they do not explicit disclose said communications path assessment unit is operable to receive control signals generated by a communications path controller (mobile switching center) serving to monitor said communications paths, which control signals represent one or more measures of the performance of those communications paths. Gilhousen et al. teaches a base station controller (col. 7 lines 60-62) is operable to receive control signals generated by a communications path controller (MSC) serving to monitor said communications paths (col. 7 lines 37-54), which control signals represent one or more measures of the performance of those communications paths (col. 7 lines 37-54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Labeledz and Bruckert et al. network with said communications path assessment unit is operable to receive control signals generated by a communications path controller serving to monitor said communications paths, which control signals represent one or more measures of the performance of those communications paths in order to determine what base station is interfering with the mobile station call connection and to send a message to the base station to shut down its uplink call connection, as taught by Gilhousen et al..

Regarding claim 45, the combination of Labeledz and Bruckert et al. differs from claim 45 of the present invention in that they do not explicit disclose said assessment of the communications paths is carried out externally of the base station controller and the results of the assessment are communicated to the base station controller by one or more

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assessment signals, and said communications path disabling unit is operable to receive such assessment signals and to employ them to make the determination to prevent transfer of said downlink signal to at least one base transceiver station of said plurality. Gilhousen et al. teaches an assessment of the communications paths is carried out externally of the base station controller (i.e. at the MSC) and the results of the assessment are communicated to the base station controller by one or more assessment signals (col. 7 lines 41-47). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Labedz and Bruckert et al. with said assessment of the communications paths is carried out externally of the base station controller and the results of the assessment are communicated to the base station controller by one or more assessment signals, and said communications path disabling unit is operable to receive such assessment signals and to employ them to make the determination to prevent transfer of said downlink signal to at least one base transceiver station of said plurality in order for the base station controller to receive instructions from the mobile switching center to inform one of the base station to shut down to prevent interference with another base station, as taught by Gilhousen et al..

Allowable Subject Matter

8. Claims 9-12 and 34-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: Regarding claims 9 and 34, the prior art of record fails to teach or suggest, alone or in combination wherein at least one base transceiver station of said plurality has two or more communications paths available for connecting it to the base station controller, and the network further includes an available path selection unit operable, when said communications path disabling unit determines that said transfer between its base transceiver station and the base station controller is to be made, to select one of said available communications paths.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith T. Ferguson whose telephone number is (703) 305-4888. The examiner can normally be reached on 6:30am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (703) 308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Keith Ferguson
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March 16, 2004

